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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/714,138	11/17/2000	Joo-Soo Lim	3430-0143P	5523

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EXAMINER

AKKAPEDDI, PRASAD R

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 10/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/714,138

Applicant(s)

LIM, JOO-SOO

Examiner

Prasad R Akkapeddi

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitations claimed in claims 2, 10 i.e., "the open portion of the lower substrate has a wider width than the injection port" and in claim 17 i.e., "the tray with the protruded portion has a terminal having a wider width than the injection port" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 9 and 10 rejected under 35 U.S.C. 102(b) as being anticipated by Kim (U.S. Patent No. 5,335,103).

As to claims 9 and 10: Kim discloses a liquid crystal display panel with an upper substrate (not shown), a lower substrate (22) assembled with the upper substrate, the lower substrate having an open portion (27) that elongates from an injection port (24) to a side of the lower substrate (Fig. 2) liquid crystal material

interposed between the upper and lower substrates and a seal pattern (23) formed between the upper and lower substrates, the seal pattern having an injection port (24). Kim also discloses that the open portion of the lower substrate (27) has a wider width than the injection port (24).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of applicant's cited conventional art.

a. As to claims 11-15: Although Kim discloses a panel with an upper seal pattern formed on the upper substrate smaller than the lower seal pattern formed on the lower substrate and having pixel electrodes, TFTs and other components, Kim does not explicitly disclose that the upper substrate is smaller than the lower substrate nor does Kim disclose explicitly the arrangement of the data pads or the gate pads. Applicant's cited conventional art as cited in the brief description of the drawings and shown in shown in Figs. 1-4, discloses a similar liquid crystal display panel with the upper substrate (1) smaller than the lower substrate (2) and the lower substrate having a plurality of data pads (6) and gate pads (7) disposed on the lower substrate and the arrangement of these data and gate pads in double bank arrangement or a single bank arrangement (obvious). The

Art Unit: 2871

printing of the seal pattern in advance on the lower substrate is disclosed on page 1, line 22-24. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the configuration of the liquid crystal panel cited by the applicant's conventional art to the liquid crystal panel disclosed by Kim for better liquid crystal material injection control into the panel.

2. Claims 1,2, 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Yamamoto et al. (Yamamoto) (U.S. Patent No. 6,095,203).

As to claim 16 -18: Although Kim discloses a panel with an upper seal pattern formed on the upper substrate smaller than the lower seal pattern formed on the lower substrate and having pixel electrodes, TFTs and other components, Kim does not explicitly disclose a tray used for filling the liquid crystal into the liquid crystal panel. Yamamoto on the other hand, discloses a tray not only in the cited conventional art (12) but also in (Fig. 4A) discloses a supply port (45) (tray) for filling a liquid crystal material into a liquid crystal panel and the tray having body defining a cavity (47)) with protruded portion (22) extending from said body and corresponding to the open portion of the liquid crystal panel (43) and the tray with the protruded portion has a terminal having a wider width than the injection port (Col. 9, lines 1-5). Yamamoto also discloses a system (100) for filling a liquid crystal material into a liquid crystal panel. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made

to adapt the tray disclosed by Yamamoto to the liquid crystal panel disclosed by Kim for better liquid crystal material injection control into the panel.

As to claims 1-2: Kim does not disclose a method of filling a liquid crystal material into a liquid crystal display panel. However, Yamamoto discloses a method of injecting liquid crystal material into a panel having a tray, seal patterns and other feature as described before. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the method disclosed by Yamamoto for filling the liquid crystal material into the liquid crystal panel disclosed by Kim to reduce wastage of the material and for better injection control.

3. Claims 3- 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim and Yamamoto as applied to claims 1-2 above, and further in view of the applicant's cited conventional art.

As to claims 3-8: Although Kim discloses a panel with an upper seal pattern formed on the upper substrate smaller than the lower seal pattern formed on the lower substrate and having pixel electrodes, TFTs and other components, Kim does not explicitly disclose that the upper substrate is smaller than the lower substrate nor does Kim disclose explicitly the capillary action or the arrangement of the data pads or the gate pads. Applicant's cited conventional art as cited in the brief description of the drawings and shown in shown in Figs. 1-4, discloses a similar liquid crystal display panel with the upper substrate (1) smaller than

the lower substrate (2) and the lower substrate, capillary action (Page 2, line 1), with a plurality of data pads (6) and gate pads (7) disposed on the lower substrate and the arrangement of these data and gate pads in double bank arrangement or a single bank arrangement (obvious). The printing of the seal pattern in advance on the lower substrate is disclosed on page 1, line 22-24. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the configuration of the liquid crystal panel cited by the applicant's conventional art to the liquid crystal panel disclosed by Kim for better liquid crystal material injection control into the panel.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prasad R Akkapeddi whose telephone number is 703-305-4767. The examiner can normally be reached on 7:00AM to 5:30PM M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William L Sikes can be reached on 703-308-4842. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0530.

Application/Control Number: 09/714,138

Page 7

Art Unit: 2871

PRA

October 19, 2002

William L. Sikes

William L. Sikes
Supervisory Patent Examiner
Technology Center 2800